



Brake Disc Refinishing Guidelines

(Replaces 86-020, dated July 1999)

Replacement of brake discs under warranty is *not* allowed unless the brake disc is beyond its service limit for refinishing. If the brake disc is within its service limit, it *must* be refinished. You can find the maximum refinishing limits in the Conventional Brakes section of the appropriate shop manual.

You need to refinish brake discs every time they are replaced. You also need to refinish brake discs when they become scored, or if there is pulsation when the brakes are applied.

American Honda recommends two tools for brake disc refinishing: the Kwik-Way Brake Lathe and the Kwik-Way Power Drive System. These tools let you refinish both front and rear brake discs *on the vehicle* for most Honda models. On-vehicle refinishing ensures against brake pulsation that can result from off-vehicle refinishing.

American Honda highly recommends using the power drive system to turn the front and rear brake discs. You can also use the vehicle's engine to turn the brake discs, depending on the model, but the power drive system turns the brake disc at the proper torque and speed, allowing the brake lathe to make a smooth, consistent cut. The power drive system also offers these advantages:

- No need to climb in and out of the vehicle to start and stop the engine or to shift the transmission.
- No need to secure the opposite wheel with a tie-down strap.
- No waiting for the engine to return to idle; no concern about engine speed changes that can adversely affect brake disc cut and finish.
- No involvement with the Traction Control System (TCS) or Vehicle Stability Assist (VSA).
- Increased cutting tool life because of consistent cutting speed.

ORDERING INFORMATION

To order the Kwik-Way Brake Lathe, its component parts, and the Kwik-Way Power Drive System, contact the Honda Tool and Equipment Program at **1-888-424-6857**. Phone lines are open Monday thru Friday from 7:30 a.m. to 7:00 p.m. Central Time. When calling, make sure you enter the appropriate access code first (see the Honda Tool and Equipment Catalog for a list of these codes).

WARRANTY CLAIM INFORMATION

None; this bulletin is for information only.

FRONT BRAKE DISCS

Whenever you replace a front brake disc, you *must* refinish the new disc *on* the vehicle to avoid brake vibration. Time for refinishing new front brake discs is included in the flat rate time for brake disc replacement.

Follow these guidelines to get the best results from your Kwik-Way brake lathe and power drive system. (For detailed instructions, refer to the appropriate operating manual.)

Setting Up the Vehicle

Put the transmission in Neutral. If you are *not* using the power drive system, start the engine, and let it warm up to its normal operating temperature so the idle speed will stabilize to its lowest rpm.

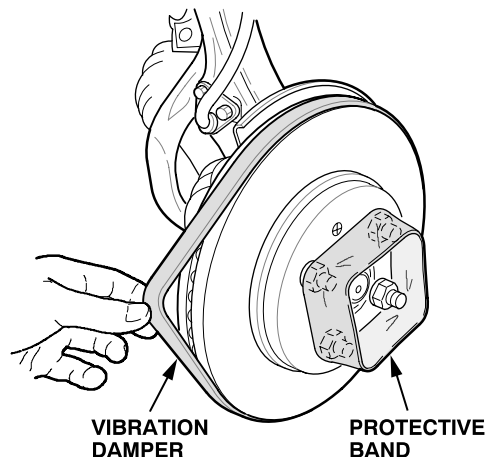
Raise the vehicle on a lift.

Check for loose wheel bearings. You *must* correct for loose wheel bearings *before* you refinish the brake discs. If you do *not*, the brake lathe will *not* correct for brake disc runout, resulting in an uneven finish and brake pulsation.

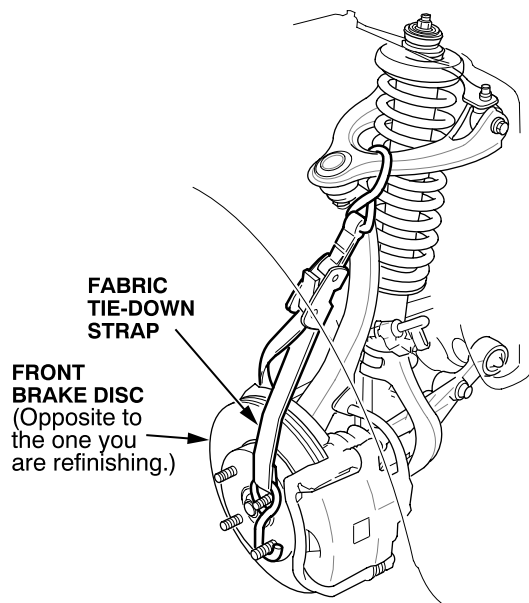
Remove the front wheels, then reinstall the wheel nuts with flat washers to compensate for the removed wheel. Torque the wheel nuts to the required specification (see the appropriate shop manual).

Remove the caliper assembly. Use a wire or an S-hook to hold the caliper to the spring or shock tower. Do *not* kink the brake hose or use it to support the caliper. If you are *not* using the power drive system and the vehicle has TCS or VSA, make sure you install a brake pad spreader between the pads on the hanging caliper. Also, make sure the system is turned off anytime the engine is started. If the system is *not* turned off, the brakes may activate, causing the brake pads on the hanging caliper to strike each other or the pistons to fall out.

Install the vibration damper on the brake disc. If you are *not* using the power drive system, make sure you install the protective band around the wheel nuts.



If you are *not* using the power drive system, use a fabric tie-down strap to secure the brake disc that is opposite to the one you are refinishing. If you are working on a Prelude with ATTS, do *not* use a tie-down strap; let both front wheels turn freely.



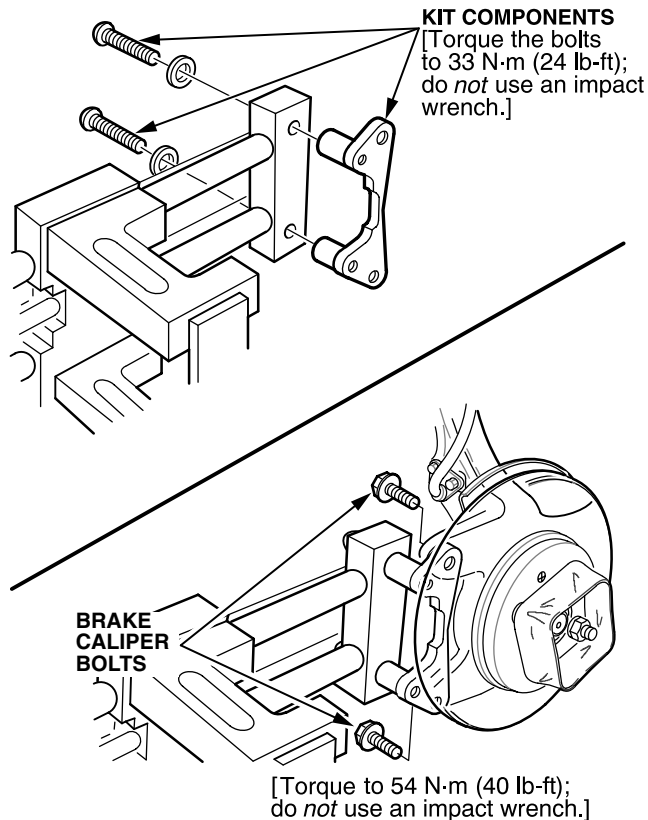
Mounting the Brake Lathe

Remove the tool bed from the brake lathe, then mount the brake lathe to the steering knuckle with a Honda 1-Piece Speed Mount Kit. This kit provides quicker, more accurate mounting. You can order this kit through the Honda Tool and Equipment Program (see ORDERING INFORMATION).

Honda 1-Piece Speed Mount Kit

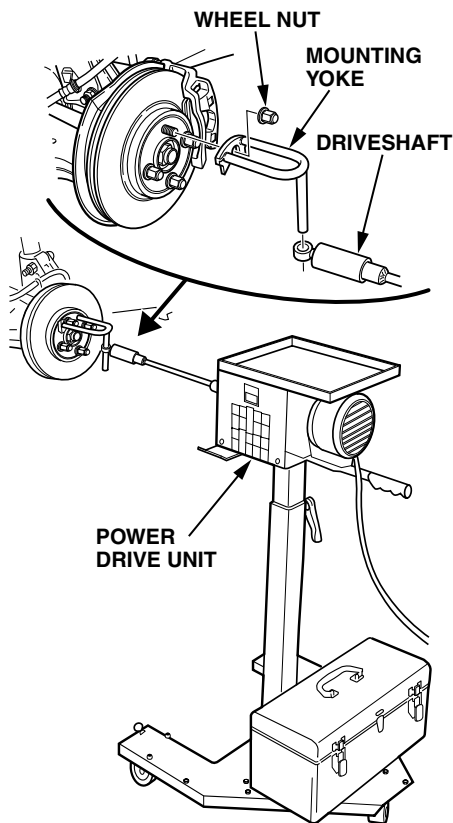
P/N KWI-108003000

or P/N KWI-108004000 (for large brake discs):

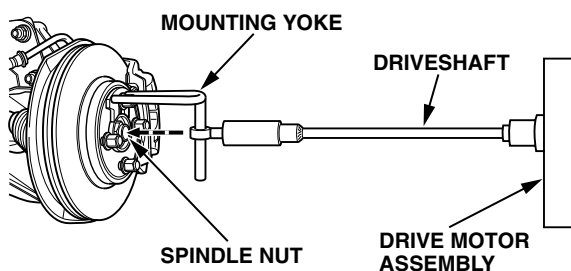


Attaching the Power Drive System

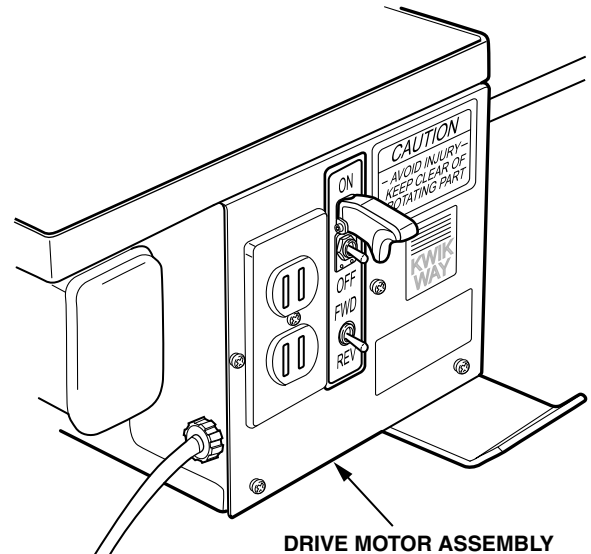
1. Make sure the drive motor assembly on the power drive system is level with the brake disc.
2. Attach the mounting yoke to the brake disc, and secure it with one of the wheel nuts. Torque the wheel nut to the required specification (see the appropriate service manual).



3. Attach the driveshaft on the drive motor assembly to the mounting yoke, making sure the center line of the driveshaft is level with the spindle nut on the wheel hub.

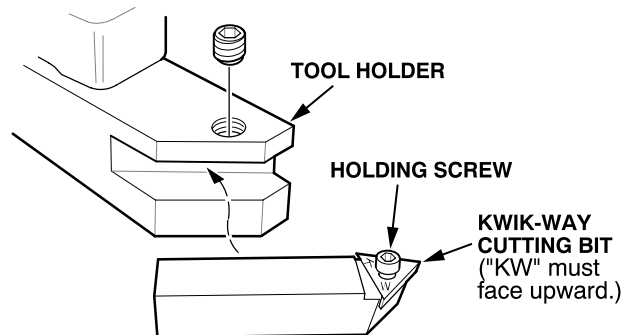


4. Set the toggle switch on the drive motor assembly to FWD (counterclockwise rotation) or REV (clockwise rotation).

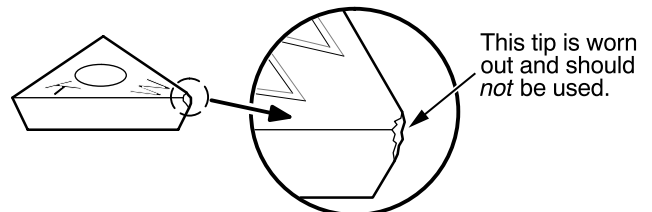


Setting Up and Adjusting the Brake Lathe

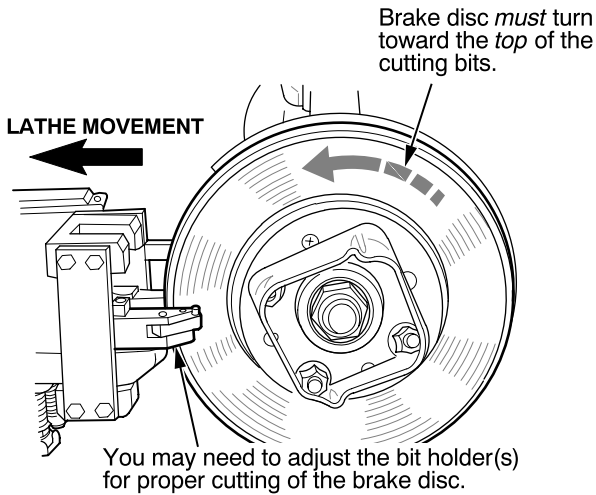
Use Kwik-Way cutting bits, P/N KWI-109109223, and the holding screws that come with them. These bits are stamped "KW" and are available through the Honda Tool and Equipment Program (see ORDERING INFORMATION).



Before you use the brake lathe, inspect the tips of the cutting bits with a magnifying glass to make sure the tips are *not* worn out. Each bit has three tips. If a tip is worn, rotate the bit, and use a new tip. A worn tip will produce a poor finish and may cause chattering.

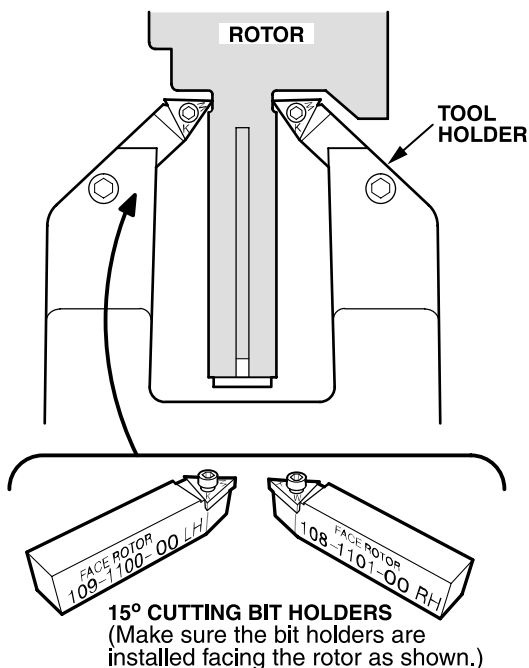


Reinstall the tool bed on the brake lathe with the top of the cutting bits facing up and the feed knobs facing down. Adjust the tool bed until the brake disc is centered between the cutting bits. For proper refinishing, the brake disc *must* turn toward the *top* of the cutting bits.



Do *not* set the cutting depth on the brake lathe to more than 0.2 mm. This is *two* divisions on the cutting knob. Make sure you start your cut at least 3 mm beyond the worn area on the brake disc.

If you are cutting a larger diameter brake disc such as that used on 1986–90 Legends, make sure you use the 15° cutting bit holders. These bit holders, available through the Honda Tool and Equipment Program (see ORDERING INFORMATION), supersede the original bit holders and provide better cutting coverage for larger diameter brake discs. Each bit holder is clearly marked for proper installation on the tool holder.



Cutting the Brake Disc

To get the smoothest cut and the best brake disc finish, *always* use the slowest feed speed on the tool bed feed motor. Place the drive belt on the *smallest* pulley of the feed motor and on the *largest* pulley of the hand wheel.

Make sure the lower toggle switch on the power drive system drive motor assembly is set to the proper rotation to turn the brake disc toward the top of the cutting bits. Plug the tool bed feed motor into the power outlet on the drive motor assembly, then turn on the drive motor with the upper toggle switch on the assembly.

If you are *not* using the power drive system, make sure the transmission is in 1st gear (2nd gear on Preludes with ATTS) or reverse and the engine is idling, but *not* at a fast idle. If the transmission and engine are at higher gears and speeds, you will damage the cutting bits.

Turn on the tool bed feed motor, and snap it into place; there should be tension on the feed belt. Cut the brake disc until the cutting bits clear the outer edge of the disc. The cutting bits should produce a smooth, consistent finish with *no* chatter marks or grooves.

If the disc did *not* clean up entirely on the first pass, reset the brake lathe, and make a second pass. When done, turn off the tool bed feed motor, and turn off the drive motor on the power drive system. If you are *not* using the power drive system, turn off the engine, and wait until the wheels come to a complete stop; do *not* press the brake pedal. If the vehicle has A/T, do *not* put the transmission in Park until the engine is off and the wheels have stopped.

Finishing the Job

Remove the vibration damper and the protective band (if used). Use a micrometer to measure the thickness of the brake disc. Make sure the thickness is within the shop manual specifications. Clean the brake disc with soapy water or brake cleaner, then wipe it dry. Use a vacuum cleaner to remove any dust or chips, but do *not* use compressed air.

Unplug the tool bed feed motor from the drive motor assembly, and remove the mounting yoke from the brake disc. Remove the speed mount from the steering knuckle.

Apply a small amount of Molykote 77 grease to the brake pad shims. Reinstall the caliper assembly. (If you did *not* use the power drive system, use the brake pad spreader to push the pistons back into the caliper.) Torque the nuts and bolts to the required specification (see the appropriate shop manual).

Refinish the other front brake disc using the same guidelines. If you used a fabric tie-down strap, make sure you switch it to the other side. When you are done refinishing the brake disc, reinstall the front wheels, and torque the wheel nuts to the required specification (see the appropriate shop manual).

Lower the vehicle. Check the brake fluid level, then test-drive the vehicle to make sure the brake pedal is firm and does not pulsate. Lightly apply the brakes about 20 times during the test-drive to seat the brake pads.

REAR BRAKE DISCS

You can either refinish the rear brake discs *on* the vehicle using the Kwik-Way Brake Lathe and the Kwik-Way Power Drive System; or, refinish them *off* the vehicle using conventional brake disc refinishing equipment.

Follow the same guidelines you used for refinishing front brake discs, noting these differences:

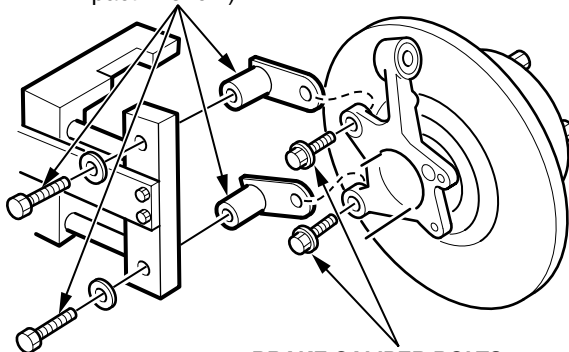
- Do *not* install the protective band around the wheel nuts.
- Mount the brake lathe to the *rear* knuckle with the Honda Two-Piece Adapter. You can order the two-piece adapter through the Honda Tool and Equipment Program (see ORDERING INFORMATION).

Honda Two-Piece Adapter

P/N KWI-108002000

KIT COMPONENTS

[Torque the bolts to 33 N·m (24 lb-ft); do *not* use an impact wrench.]



BRAKE CALIPER BOLTS

[Torque to 54 N·m (40 lb-ft); do *not* use an impact wrench.]